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### **Abstract**

Q3 This invention allows the scan nonlinearity of different type of scanning microscopes to be measured, including: optical, confocal, scanning electron and scanning probe microscopes. The scan nonlinearity of the scanning type measuring microscopes can be considerable source of errors in precise measurements of the Critical Dimension - CDs. The invention allows scanning measuring microscopes to be certified for scan nonlinearity; this invention can be used for the monitoring, adjustment and/or alignment of these type instruments. The high reliability of scan nonlinearity determination is achieved with the use of a pair of offset images of a calibration structure and consequent computer analysis of the signal differences. In addition to scan nonlinearity of a scanning measuring microscope being determined this proposed invention allows determination of heterogeneity of the pitch values intrinsic to any test-objects with periodic structure used as calibration references.

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